

App. Serial No. 09/876,661
Docket No. US 010287
Amendment with RCE

In the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (original) An LED luminaire comprising;
 - an array of LEDs comprising at least one LED in each of a plurality of colors,
 - a condenser lens positioned to direct the combined light output of the array of LEDs to a target light guide,
 - a partially reflecting element positioned to reflect a portion of the light output from the condenser lens back toward the LED array, and
 - a light sensor positioned to intercept and measure at least a portion of the reflected light.
2. (original) The LED luminaire of claim 1 further comprising;
 - means for supplying electrical current to said LED array, whereby said LEDs in each said color have a light output, and the LED array has a combined light output,
 - means for providing the reflected light output of each color separately to the light sensor,
 - means for comparing the measured light output for each color to a respective desired light output for each color, and
 - means for adjusting the electrical current to the LEDs in each color based on said comparison, whereby a desired combined light output may be achieved.
3. (original) The LED luminaire of claim 2 in which the means for providing the reflected light output of each color separately to the light sensor comprises means for selectively turning off the LEDs so that the light sensor measures the light output for each color separately in a series of time pulses.

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4. (original) The LED luminaire of claim 2 in which the means for providing the reflected light output of each color separately to the light sensor comprises color filter means for selectively filtering out the light output of each separate LED color.

5. (original) The LED luminaire of claim 4 in which the light sensor comprises an array of photodiodes.

6. (original) The LED luminaire of claim 5 in which color filter means comprises separate color filters associated with the individual photodiodes.

7. (original) The LED luminaire of claim 5 in which the light sensor additionally comprises a light diffuser and a light integrator.

8. (currently amended) An LED luminaire comprising;

an array of LEDs comprising at least one LED in each of a plurality of colors,
a condenser lens positioned to direct the combined light output of the array of

LEDs to a target light guide, and

an array of light sensors, each light sensor associated with an LED or a partial array of LEDs, each light sensor positioned to intercept and measure at least a portion of the light output of its associated LED or partial array of LEDs, at least first and second ones of the light sensors being adapted to intercept and measure light output from mutually-exclusive subsets of the LEDs.

9. (previously presented) An LED luminaire comprising:

an array of LEDs comprising at least one LED in each of a plurality of colors,
a condenser lens positioned to direct the combined light output of the array of

LEDs to a target light guide, and

an array of light sensors, each light sensor is associated with an LED or a group of three LEDs, each light sensor positioned to intercept and measure at least a portion of the light output of its associated LED or group of LEDs.

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10. (original) The LED luminaire of claim 8 further comprising;

means for supplying electrical current to said LED array, whereby said LEDs in each said color have a light output, and the LED array has a combined light output,

means for comparing the measured light output for each color to a respective desired light output for each color, and

means for adjusting the electrical current to the LEDs in each color based on said comparison, whereby a desired combined light output may be achieved.

11. (New) The LED luminaire of claim 8, further comprising a filter configured and arranged with the first light sensor to pass light from a first one of the mutually-exclusive subsets of the LEDs to the first light sensor and to filter light from a second one of the mutually-exclusive subsets of the LEDs.

12. (New) The LED luminaire of claim 11, further comprising a second filter configured and arranged with the second light sensor to pass light from the second one of the mutually-exclusive subsets of the LEDs to the second sensor and to filter light from the first one of the mutually-exclusive subsets of the LEDs.

13. (New) The LED luminaire of claim 8, wherein the first light sensor is configured and arranged with the array of LEDs such that light from a first one of the mutually-exclusive subsets reaches the first light sensor and that light from a second one of the mutually-exclusive subsets does not reach the first light sensor.

14. (New) The LED luminaire of claim 13, wherein the second light sensor is configured and arranged with the array of LEDs such that light from the second one of the mutually-exclusive subsets reaches the second light sensor and that light from the first one of the mutually-exclusive subsets does not reach the second light sensor.